

The Australian Ecolabel Program

Australian Voluntary Environmental Labelling Standard

WOOL PILE, WOOL BLEND AND MODULAR WOOL CARPET





Use of This Standard

This voluntary environmental labelling standard may be used by competent environmental assessors to establish product compliance to the Australian Ecolabel Program. Products that are certified with the mark of conformity, the “Environmental Choice Label” have been independently tested and demonstrate compliance to the environmental and social performance criteria detailed in this standard. The overall goal of environmental labels and declarations is, through communication of verifiable and accurate information that is not misleading, on environmental aspects of products and services, to encourage the demand for and supply of those products and services that cause less stress on the environment, thereby stimulating the potential for market-driven continuous environmental improvement.

This standard identifies environmental, quality, regulatory and social performance criteria that products sold on the Australian market can meet in order to be considered as best “environment practice”. Products that have been certified as complying to this standard may gain greater market recognition and a marketing advantage in government and business procurement programs and broad consumer environmental preference.

This standard can be used by Australian producers to guide their design for environment programs by using the environmental criteria as key performance benchmarks that reduce the environmental loads of their product. The standard is necessarily restricted in its identification of environmental loads from the product life cycle. Producers should consider other environmental improvement along the product cycle not included in this standard for their design for environment programs and aim for even higher levels of environmental performance where technically possible.

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Wool Pile, Wool Blend and Modular Wool Carpet

Abstract

This Standard specifies environmental performance requirements of a broad range of wool pile carpets for the Australian Ecolabel Program. The program generally complies with ISO 14024: "Environmental labels and declarations - Guiding principles" which requires environmental labelling specifications to include criteria that are objective, reasonable and verifiable.

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Definitions:

"ACCS" means the Australian Carpet Classification Scheme. (see <http://www.carpetinstitute.com.au>)

"Biochemical Oxygen Demand" (BOD) means the mass of dissolved oxygen which is required for the biochemical degradation of organic material and for the oxidation of inorganic material in a unit volume of water sample when the sample is incubated under specified conditions for a period of five days.

"Chemical Oxygen Demand" (COD) means the mass concentration of oxygen equivalent to the amount of dichromate consumed by dissolved and suspended matter when a water sample is treated with that oxidant under defined conditions.

"Label" means the Environmental Choice Australia Label.

"Readily biodegradable" compounds are those which undergo rapid and extensive molecular breakdown under conditions which provide limited opportunity for biodegradation and acclimatisation to occur. Such compounds will rapidly biodegrade in the environment and achieve extensive and extremely rapid levels of mineralization in modern aerobic sewage treatment plants. Compounds are considered to be "readily biodegradable", provided that they achieve pass levels when tested by any of the five test methods described in the OECD "Guidelines for Testing of Chemicals", Test Guidelines 301A-301E or by any of the following three test methods: ISO 7827 (DOC Method), ISO 9408 (Oxygen Uptake) or ISO 9439 (CO2 evolution). Pass levels of 70% (DOC assay) or 60% (Oxygen uptake or CO2 evolution) should be attained within 10 days of reaching an initial level of 10% degraded, up to a maximum test period of 28 days.

1.0 Introduction to the Environmental Problems of Wool Pile Carpet

There are a range of environmental loads from the production and use of wool pile carpet. The primary purpose of this standard is to define environmental performance criteria for the most significant environmental and human health impacts of wool pile carpet manufacture and use.

Wool scouring can consume large quantities of water and energy and can result in undesirable discharges to air, particularly strong odours. Scouring effluents can have heavy loadings of grease and other wastes which can remove oxygen from the receiving waters, causing impacts on plant and animal life. The use of detergents (surfactants) in scouring can also cause water quality problems. This standard stipulates minimum environmental performance standards for wool carpets.

Dyeing processes can also result in effluent discharge to water. Some processes also involve the use of hazardous substances, such as, insecticides, glues and dyes. Inappropriate handling and disposal of these materials can result in environmental impacts.

This specification addresses the manufacture of wool pile carpet from the scouring of the new wool through the manufacture of yarn to the fabrication of the carpet itself. The environmental issues addressed include emissions to air, effluent disposal, water use, energy use, dyeing procedures, hazardous substance content and insect resistance treatment. While wool carpet has environmental issues it also has environmental benefits in terms of the use of renewable resources and its ability to at end of life degrade back into the environment if separated from synthetic materials.

2.0 Product Category Scope

This standard is applicable to the following categories of carpet.

- 2.1 This category includes all carpet products where the pile is 100% pure new wool.
- 2.2 This category includes blended wool carpets where the pile is a minimum of 80% pure new wool.
- 2.3 This category includes commercial modular tiled carpets.

3.0 Environmental Performance Criteria

3.1 Fitness for Purpose

Certified products should be good performers in their intended application. It is implied that certain standards of product performance are implicit in the label. Certified product must ensure that:

- 3.1.1 The product meets or exceeds the performance requirements of the relevant Australian ACCS Technical Specifications for its intended application and is rated at a minimum level of contract heavy duty; or
- 3.1.2 The product meets or exceeds other pertinent internationally accepted standard if it is to be exported;

Certified products hence must meet the requirements of the Australian Carpet Classification Scheme (ACCS). Where carpets have not been classified under this scheme they may prove their fitness for purpose performance characteristics in compliance to the testing and performance requirements of the ACCS.

Warranty Protection

- 3.1.3 Certified products must carry a minimum two-year warranty for color fastness.

3.1.4 Wool carpets shall offer a standard product warranty of 10 years.

3.1.5 Wool modular carpets shall offer a standard product warranty of 12 years.

Insect Resistance

Wool carpets must be treated against carpet moth and carpet beetle attack to the minimum requirements of the ACCS or Woolmark/ Woolmark Blend E10 specification, or the Wool Interiors specification.

3.2 Requirements for Wool scours

Wool shall be sourced only from wool scours which comply with the following requirements.

3.2.1 Heavy effluent shall be discharged either:

A. to a municipal sewage treatment plant where the sewage is physically separated and receives secondary and tertiary treatment before discharge, and the appropriate permit is held,

Or

B. to an appropriate contained treatment system where effluent cannot flow directly into water bodies and any discharge is of a suitable quality for the receiving environment. Suitable treatment systems are anaerobic digestion, evaporation/incineration or land disposal covered by a Discharge Consent (or equivalent).

3.2.2 Rinse water effluent shall only be discharged directly into water bodies if the discharge is covered by a Resource Consent (or equivalent) and if the discharge when fully mixed does not raise the Biochemical Oxygen Demand (BOD) level of the water body by more than 2.5mg/l. In a flowing water body, full mixing shall be considered to have occurred at a point downstream of the discharge equivalent to 10 times the width of the water body. In a static water body, full mixing shall be considered to have occurred at a point 200m from the discharge.

3.2.3 Wool grease content in the primary effluent, before discharge or treatment, does not exceed 40 kg/tonne of greasy wool scoured.

3.2.4 The total water use measured at the water intake shall not exceed 30,000 l/tonne of greasy wool scoured. Measurement of water use shall be continuous.

3.2.5 Total useful energy used for the greasy wool scouring shall not exceed 4.0 GJ/tonne of greasy wool scoured (excluding the energy use of water treatment facilities).

3.2.6 Wool which is destined for carpet shall not be scoured with alkyl phenol-based detergents.

3.2.7 Wool destined for carpet shall not be insect-resist treated with synthetic pyrethroids during the scouring process.

3.3 Yarn

Yarn shall be sourced only from yarn manufacturing facilities which comply with the following requirements.

3.3.1 The Chemical Oxygen Demand (COD) level in the dye house effluent shall not exceed 35 kg/tonne of fiber dyed.

Note: Dyeing operations which discharge their effluent to a municipal treatment plant are exempt from this requirement.

3.3.2 Insect resistance treatment

Insect-resist agent shall not be applied during opening, carding or spinning operations.

If permethrin or bifenthrin insect resist agents, are used, the levels of these agents in total factory effluent shall not exceed:

- < 0.1 ug/L for discharge to an open environment
- < 0.2mg/L for municipal treatment systems

Relevant water factory effluent includes effluent from the scour and effluent from the dye baths.

3.3.3 Spinning lubricant additions shall not exceed 3% of the weight of wool.

3.3.4 Fiber destined for carpet manufacture must have the following characteristics:

- Dyeing using after-chroming techniques shall not be used
- Effluent from the dye house shall not contain more than 2000ppm chromium
- Fluorochemical finishes shall not be used
- Sulphonated phenolic stainblockers shall not be used
- Yarn scouring surfactants shall be readily biodegradable.
- Total organophosphate pesticide content of the wool fiber shall not exceed 0.5ppm
- Total organic chlorine pesticide content of the wool fiber shall not exceed 0.1ppm

3.4 Supply of Cotton

Wool carpet shall be sourced only from manufacturing facilities which ensure that cotton used in the construction of carpet is unbleached.

3.5 Finished Product

3.5.1 Certified products must demonstrate the following emissions rates when measured using Carpet and Rug Institute Green Label Plus Program for the complete carpet tile and broadloom, a TVOC emission rate of 0.5 mg/m² per hour or less after **14 days**.

3.5.2 Air Emissions. Certified products must demonstrate compliance to the Carpet and Rug Institute Green Label Plus or demonstrate via independent testing compliance to another internationally recognized VOC Standard acceptable to GECA.

3.6 Adhesives

3.6.1 The manufacturers recommended adhesives for installation shall be Water based, pressure sensitive, low VOC adhesives. Adhesives certified to the GECA 1 – Adhesives 2005 Standard or are compliant to the Carpet and Rug Institute Green Plus Air Emissions Label automatically qualify as compliant to this criteria.

3.6.2 The total VOC of the adhesives must be a maximum of 5% by weight of the final product excluding water.

3.7 Waste Minimisation and Management

3.7.1 Commercial Wool Carpet products must be sold with a service offering to customers that includes rotation and replacement of worn tiles;

3.7.2 Manufacturers of certified products must have either:

- an existing product stewardship program offering product take back at end of life for the certified product range or

- an active program to implement such a system throughout its Australian markets.

Demonstration of an active program must include documentation considering at a minimum potential material flows for carpet collected at end of life and internal documentation confirming the establishment and function of a take back research program.

3.8 Compliance to Environmental Regulations

The applicant is required to comply with relevant environmental legislation and government orders at the Local, State and Commonwealth level, if these have been issued. An applicant's compliance with this criterion may be established by undertaking a series of random checks and gathering samples of applicant operational procedures and documents by approved assessors as evidence to support compliance during the verification and /or a statement of self declaration by an executive officer of the applicant organisation. Where an applicant is from an overseas jurisdiction, that jurisdictions environmental regulations apply.

3.7 Compliance to Labour, Anti-Discrimination and Safety Regulations

An applicant shall demonstrate that all employees are covered by a Federal or State award or a certified industrial agreement or a registered workplace agreement as determined by the Industrial Relations Commission, the Employment Advocate or a State or Territory Workplace Relations Agency.

An applicant shall demonstrate general compliance to the terms of State or Territory Legislation concerning Occupational, Health and Safety and/or the *Commonwealth Safety, Rehabilitation and Compensation Act 1988* where applicable. Where the applicant is subject to a breach order by a government agency or a guilty verdict by an Australian Court within the last 24 months on the basis of a breach of State, Territory or Commonwealth Occupational, Health and Safety Legislation there must be evidence of corrective action.

The applicant shall demonstrate general compliance to the requirements of the *Racial Discrimination Act 1975*, *Sex Discrimination Act 1984*, *Disability Discrimination Act 1992*, and *Equal Opportunity for Women in the*

Workplace Act 1999 and complementary State Legislation. Applicants cannot be in the list of 'named' or non-compliant employers under the *Equal Opportunity for Women in the Workplace Act 1999*. Where the applicant is subject to a breach order by a government agency or a guilty verdict by an Australian Court in the last 24 months on the basis of a breach of these Acts there must be evidence of corrective action.

Where an applicant is from an overseas jurisdiction, the applicant shall demonstrate general compliance to that jurisdiction's anti-discrimination, occupational health and safety and workers compensations regulations. Where the applicant is subject to a breach order by a government agency or a guilty verdict by a legal court in their respective country within the last 24 months on the basis of a the breach of anti-discrimination, occupational health and safety and workers compensations regulations there must be evidence of corrective action.

An applicant's compliance with these criteria may be established by undertaking a series of random checks and gathering samples of applicant operational procedures and documents by approved assessors as evidence to support compliance during the verification and /or a statement of self declaration by an executive officer of the applicant organisation.

4.0 Compliance Testing

Conformance with this standard shall be demonstrated by undertaking an assessment to the above criteria by an approved assessor following the certification and verification procedures detailed in the Australian Environmental Labelling Association Documented Quality Management System which generally follows the environmental auditing requirements of ISO 14 010 and 14 011.

The Australian Ecolabel Program classifies approved assessors as:

1. Assessors registered by the Australian Environmental Labelling Association as environmental professionals that hold expertise relevant for an assessment and which have undertaken training in the procedures of the Australian Ecolabel Program, or
2. Environmental auditors accredited with the Quality Society of Australasia following the principles of ISO 14 0012; or
3. Assessors registered with the Environmental Choice New Zealand Trust.

New testing shall be undertaken by a laboratory accredited by the National Association of Testing Authorities (NATA) or similar overseas accreditation to carry out the relevant tests and/or documentation detailing environmental performance against the key indicators for this standard. The tests results should be presented on NATA endorsed reports or from a laboratory acceptable to the Australian Environmental Labelling Association.

Audit evidence should be of such a quality and quantity that competent environmental auditors working independently of each other will reach similar audit findings from evaluation of the same audit evidence against the same audit criteria.

Suitable sources of information to establish compliance may be but are not limited to:

- 1) Technical specification of the product.
- 2) Obvious characteristics of the product from examination.
- 3) Scientific and test results and reports.
- 4) Environmental management system and audit reports and results.
- 5) Life cycle assessment of each stage of the product life cycle via a physical audit and examination.
- 6) Life cycle assessment via scientific testing.
- 7) A statement of confirmation by an executive officer.
- 8) An assessment of company or government records.
- 9) Other material that can be considered objective evidence.
- 10) Test data provided through The Carpet Institute of Australia.

If testing results or environmental auditing results are not available, and/or there is not sufficient data to establish full compliance to the criteria required by this standard then certification cannot be awarded.